Saint Lucia Today

According to the May 12, 1980 census of Saint Lucia (corrected for undercounts and adjusted to July 1 of that year), the population was estimated to be 120,300. This marks an increase of about 20,000 (19.2 percent) over the 100,893 enumerated in 1970, yielding an average annual rate of growth during the decade of 1.8 percent. The statistical office of Saint Lucia estimates that the population increased to about 124,000 by mid-1982, an average growth rate of 1.5 percent since 1980. As already noted, the population grew at similarly high rates before 1970—rates that are among the highest in the East Caribbean.

The size of a population can only be affected by natural increase (births minus deaths) or net migration (that is, movements either into or out of a nation). In Saint Lucia, despite a long history of net emigration, population growth rates have been surprisingly high. During the 1970s, the estimated net emigration rate was 11 per 1,000 population, according to the government's statistical office. This suggests that about 1,200–1,400 more people left the country than entered it in any given year. Using reverse projection* demographic techniques, for this report emigration has been estimated at about 1,500 per year. As decennial growth from natural increase was approximately 35,000, this lends further credence to the net emigration estimation of 15,000 for the decade. In other words, overall growth amounted to 20,000 (35,000 minus 15,000).

* The reverse projection method "survives" the population by age and sex backward in five-year intervals. By using appropriate survival rates, a population—males aged 45–49 in 1980, for example—can be restored to the number who would have been 40–44 in 1975 and 35–39 in 1970. Assuming relatively complete censuses in both 1970 and 1980, any differences in the age-sex distribution in 1970 between the restored and the actual enumerated population must be accounted for by either immigration or emigration. This yields only a rough estimate of the level of net migration over a decade; nonetheless it is the best available, short of actual data on migration itself.

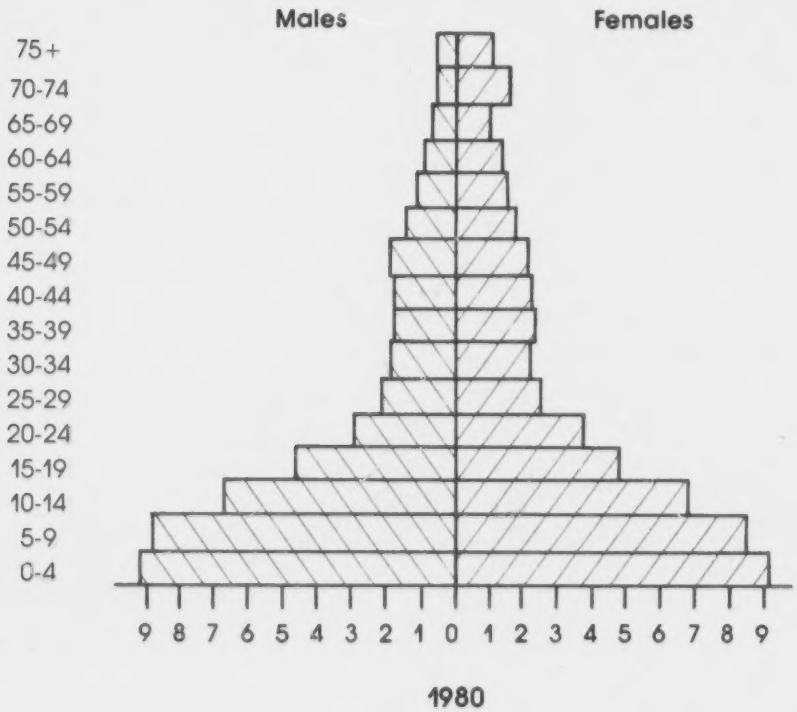
The birth rate fell between 1970 and 1980 from about 45 to 29.3 per 1,000. More telling is the decline in the total fertility rate (TFR), the number of live births per woman according to the age-specific rates of a particular year. In 1970 women averaged close to 6 live births; by 1980, the figure had fallen to 4.3. Although this is a significant drop, fertility is nevertheless still high by Caribbean standards. And according to the statistical office, fertility has increased since 1980, so Saint Lucia continues to have one of the highest fertility levels in the region.

Data for 1977 to 1982 (see Table 3) illustrate the recent variations in fertility rates. Between 1977 and 1980 the crude birth rate fell by 6.4 percentage points and the actual number of births also declined, despite increases in the overall population. The number of births registered in 1980 was the lowest in many years. Since then, however, rates as well as numbers have risen. By 1982, according to provisional data, the crude birth rate was 32.6 and the 3,405 births were the most recorded since the early 1970s. As a result, the TFR of 4.3 in 1980 increased to 4.7 in 1981 and to an estimated 4.9 in 1982. This unexpected increase may well be a temporary phenomenon; it is too early to arrive at a more definite conclusion.

Table 3: Crude Birth and Death Rates in Saint Lucia, 1977–82

Year	Crude Birth Rate	Crude Death Rate
	(per 1,000 population)	
1977	35.7	7.1
1978	33.5	6.7
1979	31.5	7.2
1980	29.3	6.7
1981	31.2	6.9
1982	32.6	6.6

Figure 1: Age-Sex Distribution of Saint Lucia, 1980



Progress in reducing mortality rates in Saint Lucia has been noted in recent years. The crude death rate, for example, fell from 8 to 7 per 1,000 over a decade. By 1980 life expectancy for males was 67.4 years at birth; for females, it was 71.8. In 1982, life expectancy had risen to 68.7 and 72.4, respectively, levels much more typical of developed than developing nations.

The infant mortality rate has also dropped significantly in recent years. In 1980 it was 29 per 1,000 live births, considerably lower than in 1970. Progress has apparently continued to the present day. Provisional 1982 data indicate an infant mortality rate of 22.4. The combination of a young population and considerable success in prolonging life expectancy has resulted in an extremely low crude death rate, which is expected to remain low for the foreseeable future.

As already noted, the historical pattern of net emigration continued through the 1970s. The assumption of 1,500 per year used in this report represents a rate of 12.5 per 1,000 in 1980—slightly higher than the official estimate. Although a considerable number of Saint Lucians migrate to neighbouring countries such as Martinique and Barbados, many are moving to the metropolitan nations, particularly Canada and the United States. As Table 2 indicates, the number entering the latter increased considerably in the 1970s.

Because of continued high fertility and relatively constant levels of net emigration, the population of the island did not age appreciably during the 1970s. This is in marked contrast to some other East Caribbean nations, where the median age often increased as much as four or five years in just one decade. In Saint Lucia, the median age crept up from about 15.5 in 1970 to 16.5 in 1980—where it still remains—which means the country has one of the youngest populations in the East Caribbean.

Changes in the proportional distribution by age have thus been negligible. The proportion under age 15 was 49.4 in 1970 and 49.6 in 1980 (see Figure 1). The 65-or-older group increased its share ever so slightly, from 5.1 to 5.3. The dependency ratio (the number of people under 15 and over 64 per 100 persons between those ages) was barely altered during the decade—from 120 to 122 dependents per 100 working-age individuals.

Saint Lucia's demographic future is uncertain. There is widespread agreement that the population cannot increase much more, given its growing density. Although possible, a population of 200,000 seems far too large. Yet with persistently high fertility, a doubling of the population in the not-too-distant future is quite possible, even with continued net emigration. Some means of limiting the island's population will have to be found.

Saint Lucia Tomorrow

It is not possible to make predictions about the future population of Saint Lucia, or, indeed, of any other nation. Rather, projections of future population levels are developed based on alternative assumptions about fertility, mortality, and migration. These result in a series of different scenarios that it is hoped will be of value to policymakers as they develop population-related policies for the future.

Demographic Assumptions: Three models of fertility have been selected. One keeps the fertility at its current approximate level of 4.5. Although the 1982 provisional data indicated a TFR of 4.9, it has been assumed that such a high level will not continue. A TFR of 4.5 is somewhat higher than that recorded in 1980 but lower than in 1982. The second model assumes a decline to 2.9 by 1990, after which the TFR would remain at that level. The third model assumes a replacement-level fertility of 2.1 by 1990, which is the level needed for all growth to eventually come to an end in the absence of migration.

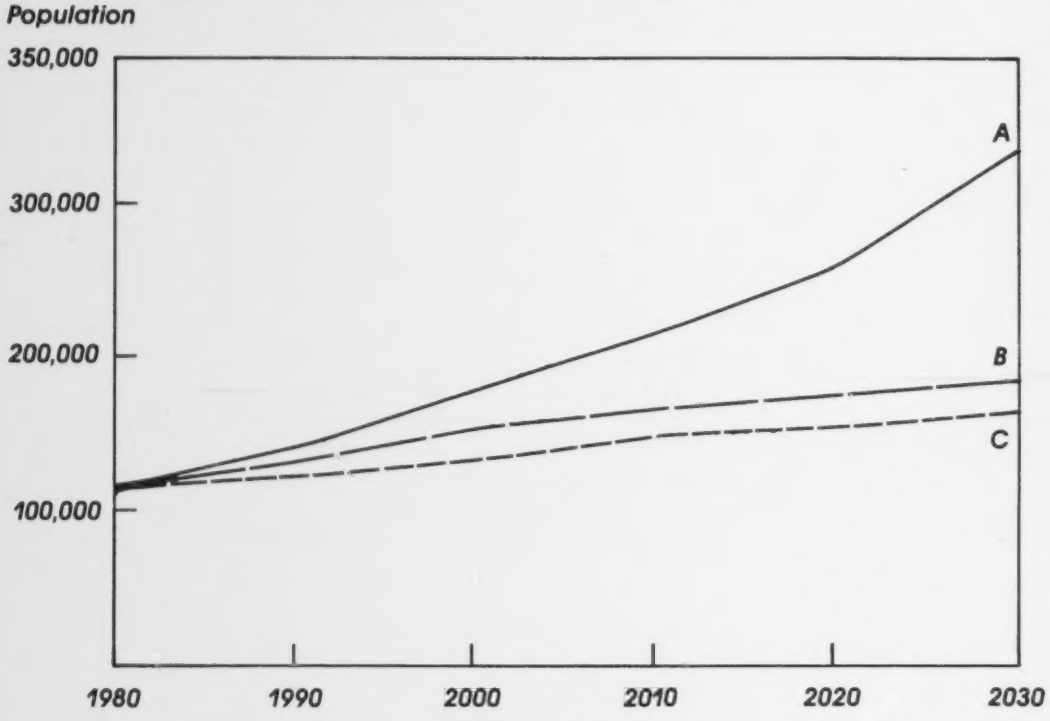
These represent substantial fertility declines in just ten years, but it is not an impossible task. It would of course require increased family planning usage on the part of Saint Lucian men and women, particularly by adolescents and young adults. In 1982, almost 30 percent of all births occurred to adolescent women, under age 20, and only about one-quarter of all women in sexual unions were using contraceptives. Reductions in adolescent fertility and increases in contraceptive use could quickly lower the birth rate.

Only one pattern of mortality levels is used. It begins with a life expectancy of 68.7 for males and 72.4 for females, the current levels according to the Saint Lucian statistical office, and assumes continued improvements until 2020, when life expectancy would be 73.9 for males and 77.5 for females. No further changes would be anticipated.

Three models of migration are used. One postulates a constant level of net emigration at the 1980 level, that is to say 1,500 per year. The second assumes that future net emigration will be halved, to 750 per year. Finally, for illustrative purposes, the third model assumes no net emigration whatsoever.

The last model—an end to emigration—is of course highly unlikely. A continuation of the current situation is very possible. However, a reduction in the number of people leaving Saint Lucia in the future is also possible. The United Kingdom has for all practical purposes been eliminated as a country of destination. Both the United States and Canada are reexamining their immigration laws. Finally, nearby receiving countries such as Barbados and Trinidad are themselves concerned about popula-

Figure 2: Population of Saint Lucia, 1980–2030



A: TFR of 4.5, net emigration of 1,500
B: TFR of 2.1, net emigration of 750
C: TFR of 2.9, net emigration of 1,500

tion growth and are increasingly reluctant to accept immigrants from neighbouring islands. A 50 percent reduction in net emigration is certainly a plausible development that must be considered.

Based on various combinations of these fertility and migration assumptions, some basic scenarios of future population growth have been constructed (see Figure 2; for supporting data, see Appendix Table C):

Scenario A – current fertility (4.5) and current net emigration (1,500 per year)

Scenario B – replacement-level fertility (2.1) and half the current level of emigration (750 per year)

Scenario C – declining fertility (2.9) and current net emigration (1,500 per year).

In addition, two scenarios with zero net emigration will be discussed briefly to illustrate the built-in momentum for growth even with replacement-level fertility, as well as with current levels of fertility.

Population Projections: A continuation of current demographic behaviour in the future (Scenario A) would lead to considerable growth. In just 16 years the population would approach 175,000, some 45 percent more than in 1980. By 2017 a doubling of numbers would have occurred and in less than 50 years, in 2030, Saint Lucia's population would top 340,000. This is what can be expected if fertility remains around 4.5, if life expectancy increases slightly, and if net emigration remains at about 1,500 per year.

Furthermore, in 2030 the crude birth rate would be 33.7 and the crude death rate 4.8. With a continued net loss through migration of 1,500 people, the actual rate of growth would then be 2.5 percent per year with no slowdown in prospect. Indeed, because of its large base popula-

tion in 2030, numerical growth would become even more dramatic thereafter. Under this scenario the population in 2050 would have passed an incredible 565,000!

Such growth patterns cannot be maintained for very long. Realistically, levels of net emigration cannot be expected to remain constant. They are more likely to drop in future years. The only other reasonable solution would be to reduce fertility levels drastically.

Scenarios B and C have been prepared as possible alternative means of arriving at a zero-growth society of no more than 175,000 over the next 50 years. Scenario B illustrates the level of fertility that will be needed if net emigration levels are halved. If net emigration falls to 750 per year, it would be necessary to lower the total fertility rate to 2.1 by 1990 to ensure that the island's population does not pass 175,000 in the future. Even under this scenario, the population would still increase by some 30,000 by the turn of the century, a growth of 25 percent over 20 years. The number of Saint Lucians would peak at just over 175,000 in 2030 before beginning a slight decline.

Since a total fertility rate of 2.1 is the level needed to attain zero population growth eventually without migration, it may seem surprising that with some net emigration, growth would still occur for the next 50 years before stopping. This reflects the built-in momentum for growth in a young population. Scenario D (not shown in Figure 2, but the data are in Appendix Table C) exemplifies this well. Assuming a TFR of 2.1 and no migration, Saint Lucia would grow to 160,000 by 2000 and 220,000 by 2030. Only in 2050, with the population at 235,000, would zero growth be realized. No further change would take place after that year.

Scenario C illustrates the level of fertility needed if net emigration remains at its current estimated level of 1,500 per year. Fertility would have to fall from 4.5 to 2.9 by 1990 to assure an eventual peak population of no more than 170,000 in 2035. Increases over the next 50 years would be somewhat smaller than under Scenario B. The population at the end of the century would be approximately 145,000, and by 2030, it would be 168,000. After 2035, the growth rate would become slightly negative, resulting in 162,000 Saint Lucians at mid-century.

Just as slight differences in fertility can significantly affect future population size, so too can any change in the level of migration have considerable effect, whether more people enter or leave a region. Scenario E (not in Figure 2, but see Appendix Table C for data) considers what would happen if suddenly all migration came to an end but fertility remained at current levels. By 2000, the population would almost double to 224,000; in 2015, it would surpass 360,000; and in 2030 it would total 531,000, obviously not a viable policy option!

Scenarios B and C both appear to be reasonable options to follow if it is decided that population growth in Saint Lucia should end in the not-too-distant future at some number well below 200,000. There are, of course, other ways to combine the demographic elements of B and C and arrive at a variety of intermediate scenarios. For example, if net emigration fell to 1,000 annually, a TFR of about 2.4 would be needed to attain zero population growth below 175,000. At any rate, it is clear that if eventual population stability is desired, fertility must be drastically reduced irrespective of what occurs with emigration.

Age Distribution: The size of the future population of a country is necessarily of tremendous importance. But so, too, is its age distribution. Two nations may be of similar size and even have the same growth rates, yet they can exhibit vastly different age distributions. The impact of the latter on the society can often be as critical as the former. Whether a nation has a high proportion of young, elderly, or working-age people in its population depends on different levels of fertility, mortality, and migration.

Under Scenario A (that is, a continuation of current demographic behaviour), variations in age distribution would not be substantial, particularly after 1990 (see Table

Table 4: Percent Distribution of Population by Age-Group in Saint Lucia, 1980–2030

Scenario	1980	1990	2000	2010	2020	2030
Scenario A						
Under 15	49	42	43	42	41	41
15–64	45	51	49	51	54	54
65 or older	6	7	7	7	5	5
Scenario B						
Under 15	49	37	26	27	22	19
15–64	45	57	67	66	70	70
65 or older	6	6	7	7	8	11
Scenario C						
Under 15	49	38	32	32	28	26
15–64	45	54	59	59	64	63
65 or older	6	8	9	9	8	11

4). A slight decline in the proportion under 15 as well as among the elderly would occur, but most changes would happen in this decade. The current large proportion of youth reflects the high fertility of the past 15 years. This has resulted in a population with a median age just above 16. Beyond 1990 change would be minimal, although the dependency ratio would fall from 96 in that year to 85 by 2020, a rate still relatively high by Caribbean standards.

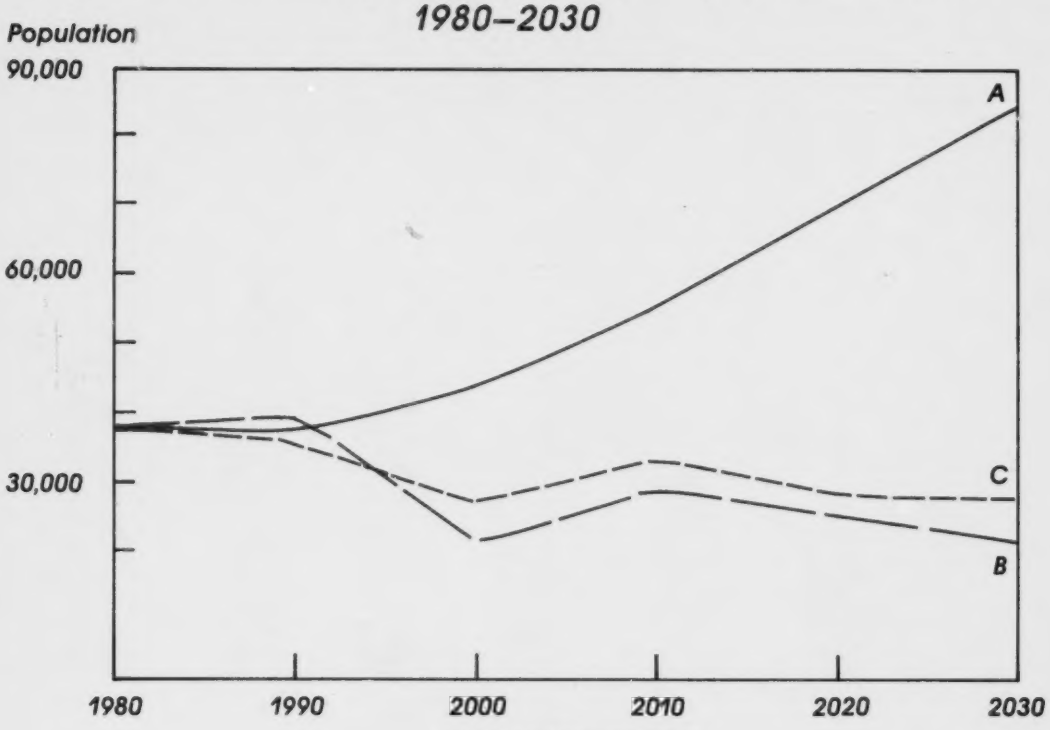
Scenarios B and C both result in a significantly older Saint Lucian population. With very low fertility of 2.1 and reduced net emigration (Scenario B), the proportion of persons under 15 in the population would fall from its present 49 percent to 26 percent in 2000 and 19 percent in 2030. The elderly population, on the other hand, would rise from 6 to 7 percent in 2000 and to 11 percent in 2030. As a result, the dependency ratio would fall dramatically. While today there are 122 persons of dependent ages per 100 working-age individuals, there would only be 49 in 2000 and but 41 in 2030. Clearly, such a scenario is encouraging for the economy of the nation.

The age distribution resulting from the demographic behaviour assumed under Scenario C (a TFR of 2.9 and current net emigration) differs slightly from that under Scenario B. The proportion of youth, while falling, would not do so as rapidly. By 2000 that proportion would be 32, and by 2030 it would be 26. The proportion of elderly would increase under Scenario C as it would under B, reaching 11 percent by 2030. The dependency ratio of Scenario C would not be quite as positive as under Scenario B, though it would be in the same direction. From 98 in 1990, the rate of dependents to working-age people would fall to 67 in 2000 and to 57 by the year 2020.

When examining the changes in age distribution that would result from these three scenarios, the situation under B seems the best, though C is also a substantial improvement over A. Surely this is to be expected. Continued high fertility (under A) necessarily leads to a high dependency ratio and to large proportions of young people, notwithstanding high levels of emigration. Thus not only does declining fertility contribute to a smaller population, it also results in a more economically manageable age distribution of that population.

Rates and proportions only depict a part of the demographic profile of the future population of Saint Lucia. For the policymaker, a much more relevant issue is what the changing proportions mean for schools, for the labour force, and for the elderly. The actual number of people

Figure 3: School-Age Population (5–14) in Saint Lucia, 1980–2030



A: TFR of 4.5, net emigration of 1,500
B: TFR of 2.1, net emigration of 750
C: TFR of 2.9, net emigration of 1,500

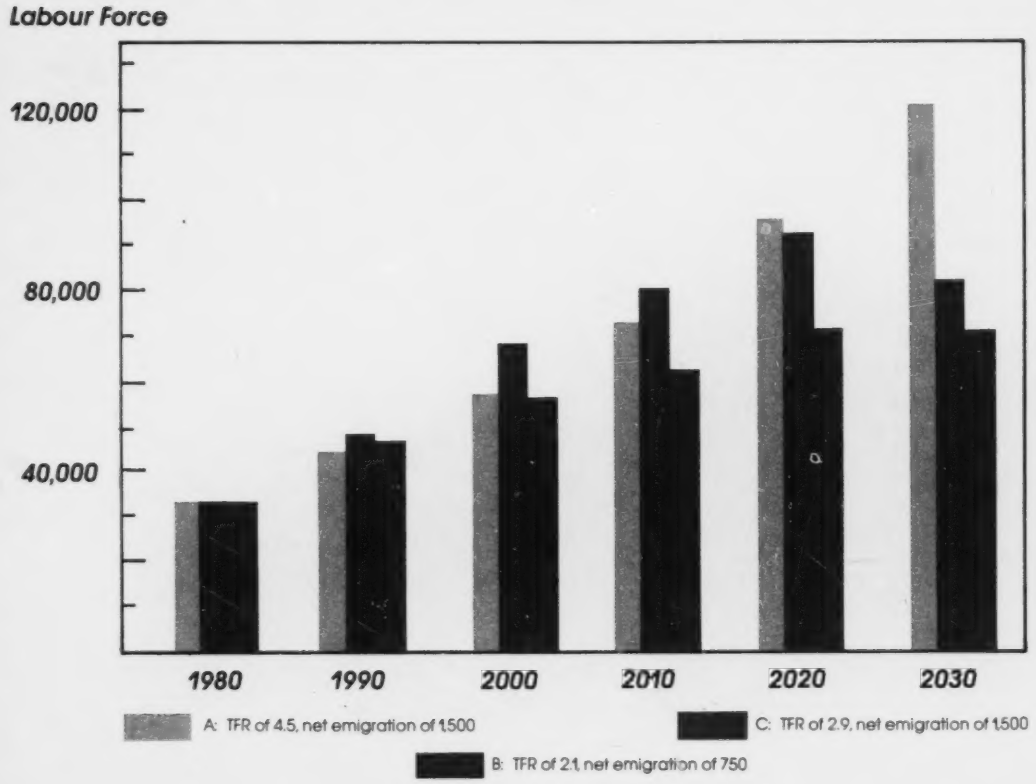
there might be in various age-groups must be examined if demographic projections are to be of any value to potential users.

School Enrollment: The number of children age 5–14 (here assumed to represent the school enrollment population) could increase by about 7,400 by the turn of the century—an increase of 20 percent over 1980. Between 2000 and 2030 a near-doubling of this young population could occur, with their numbers approaching 86,000 by the latter year. All this will take place if Scenario A proves to be an accurate picture of future demographic behaviour (see Figure 3; for supporting data, see Appendix Table D). The number of school-age children would have grown from 37,595 to nearly 86,000 in just 50 years.

Educational conditions will be greatly improved if either Scenario B or C are followed. In Scenario B, where fertility falls to 2.1 and net emigration is limited to 750 per year, the population 5–14 would increase slightly in 1990 (because fewer young people would be leaving the country). Afterwards, however, their numbers would fall quite dramatically to 22,862 in the year 2000, some 15,000 less than in 1980. The slight growth that would occur in 2010 reflects the large number of women who would be in their reproductive years in the 1990–2000 decade (as a result of the high number of births prior to 1980). Thereafter the declining pattern would resume and by 2030 school enrollments (that is, children 5–14) would number less than 22,000.

With fertility at 2.9 and continued high levels of emigration (Scenario C), school enrollments would still decline in the future, although not as rapidly as in Scenario B. By the turn of the century 27,017 Saint Lucians would be between 5 and 14. After a brief increase in 2010, numbers would once again fall, to just under 28,000 by 2030.

Figure 4: Labour Force in Saint Lucia, 1980–2030



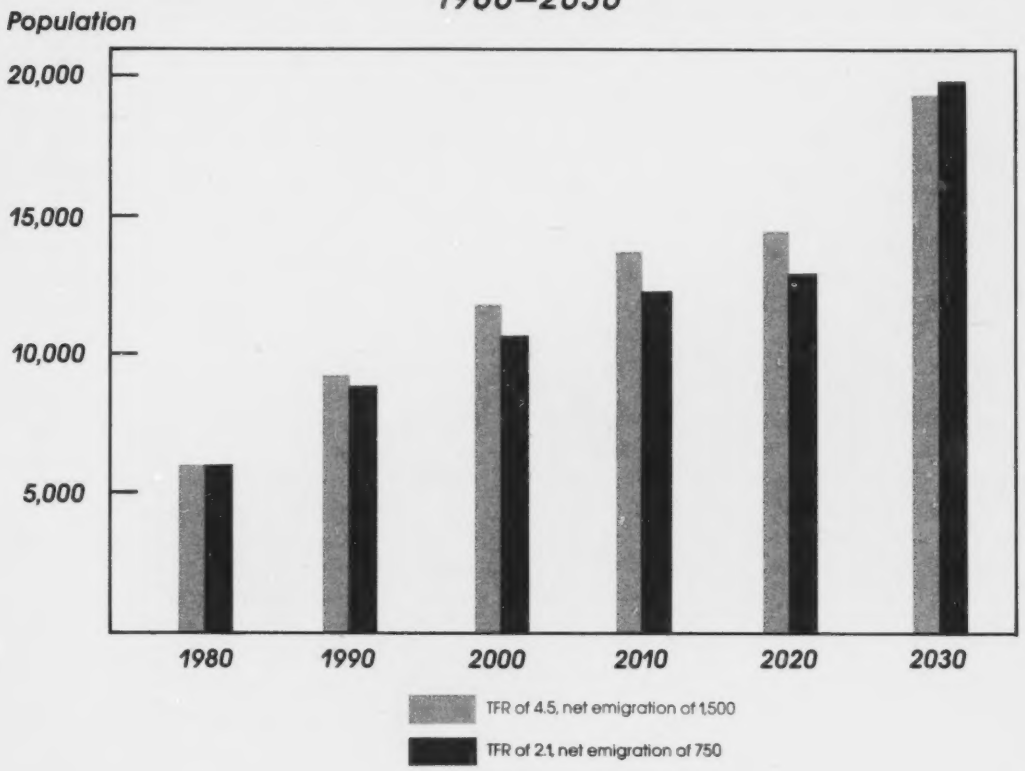
A substantial reduction in fertility would have a very strong impact on the educational system of Saint Lucia. Being able to plan for lower school enrollments within the next 15 years could not help but improve the quality of that education. Furthermore, with reduced numbers of 5–14 year olds in school, facilities could possibly be made available for increasing enrollments among older adolescents.

Labour Force: Between 1980 and 1990, some 11,000–15,000 jobs will have to be created in Saint Lucia, even allowing for a continuation of 1981's reported unemployment rate of 14.5 percent. These figures represent both the growth in the population 15 or older and changes in the labour force participation rates as projected by the International Labour Office.

Under Scenario A, by the year 2000, 58,242 people would be either working or looking for work, an increase of 23,549 (67 percent) over 1980 (see Figure 4; for supporting data, see Appendix Table E). At current unemployment levels, this would mean that some 8,500 Saint Lucians would be job hunting, usually unsuccessfully. Beyond 2000 the size of the labour force would continue to grow, to 72,000 in 2010 and 121,000 in 2030. Given that an assumption of a continuation of current demographic patterns ensures a continuation of growth, this is to be expected. However, the proportion of people in the 15–64 age-group would grow at a faster rate than that of the entire population. For example, while the total population of Saint Lucia would increase 185 percent over the next 50 years, its labour force would swell 250 percent.

In Scenario B it is assumed that net emigration will be reduced by 50 percent while fertility falls to 2.1 by the year 1990. With fewer people leaving Saint Lucia, particularly young adults, the demand for

Figure 5: Elderly Population (65 or Older) in Saint Lucia, 1980–2030



jobs would increase. Only after 2010 would the impact of lower fertility be noted among those in the labour force. Thus the labour force would grow more rapidly than under Scenario A, and by 2000 it would consist of 68,371 persons. By 2020, however, there would be nearly 94,000 job seekers or holders, slightly smaller than under Scenario A. Nevertheless, job creation will be a critical problem both immediately and later.

Scenario C (reduced fertility with current net emigration) is the most favourable path to follow as far as the labour force goes. Demands for jobs would approximate those under A until the turn of the century, when 58,174 Saint Lucians would need work. Later the demands, although still growing, would not accelerate as fast as under A or B, reflecting by then the declines in fertility that Scenario C assumes would take place after 1990.

In sum, job creation will be a critical problem in Saint Lucia for the foreseeable future regardless of fertility and migration levels. With unemployment already high, the spectre of an increase in the labour force of some 11,000–15,000 by 1990 and of 25,000–35,000 by century's end warrants serious consideration.

The Elderly: One demographic fact does not depend on which scenario is followed: Saint Lucia can plan for a vastly expanded elderly population in future years. Here what demographers refer to as the cohort effect is particularly important. The elderly of the future, at least until 2045, are already born. Thus changes in fertility will have absolutely no effect on their numbers. And since there is a tendency for elderly emigrants to return to their homeland, any reductions in overall net emigration will not significantly affect those numbers in future years. To be sure, improve-

ments in longevity beyond those already projected would lead to even larger numbers of the elderly, but this report already assumes considerable optimism on this point.

From a total elderly population of 6,670 in 1980, the island can expect an increase of between 4,500 and 6,000 by the year 2000. And within 50 years there will be close to 20,000 St. Lucians 65 or older regardless of scenario (see Figure 5; for supporting data, see Appendix Table F). Indeed, under Scenarios D and E (assuming no net emigration) the numbers also increase to just over 20,000. Although these numerical projections can be made with considerable confidence, it is not as easy to determine what proportion of the population the elderly will represent in future years. As discussed in the section on age distribution, this could vary from 7 to 9 percent in the year 2000 and from 5 to 11 percent in 2030, depending on future patterns of fertility and migration.

Being aware now of the coming "senior boom" in Saint Lucia should be of great interest to those responsible for developing long-range plans for the nation. The expenditures related to increasing numbers of elderly are significant. However, it is important to bear in mind that, as discussed, declines in fertility will result in fewer school-age children. If the country is successful in reducing fertility, expenditures might well be transferred from education to health and care of the elderly.

Conclusion: The next 10–15 years will be critical insofar as Saint Lucia's eventual population size and related socioeconomic development are concerned. Emigration at recent levels cannot be relied upon as a means of alleviating growth problems. In fact, fertility levels are so high that even with considerable continuing emigration the population size could easily pass 200,000 in the foreseeable future. A rapid reduction in fertility is thus an important goal if the nation is to arrive at zero population growth soon. Even then the changes in age distribution could be quite disruptive. School enrollments may fall along with fertility, but labour force demands will soar no matter which fertility and migration path is followed. And after the turn of the century the elderly population will grow significantly, leading to new demands on the social support system. Rapid declines in fertility could, of course, alleviate many of the problems facing the nation as it approaches the next century. It remains to be seen if this will develop.

One thing is certain: what was once an underpopulated island is gradually becoming overpopulated. Since 1850, density has increased from 15 persons per square mile to 77 persons today and it could reach 115 in the early twenty-first century.

Appendices

Table A: Population and Crude Birth and Death Rates in Saint Lucia, 1946–70

Year	Population	Crude Birth Rate	Crude Death Rate	Rate of Natural Increase
	(number)	(per 1,000 population)		(percent)
1946	70,113	37.8	15.1	2.3
1950	79,980*	35.6	15.0	2.1
1955	86,780*	41.3	12.0	2.9
1960	87,350	48.5	14.6	3.4
1970	100,893	43.9	8.4	3.5

*End of Year Estimates

Table B: Components of Population Change in Saint Lucia, 1946–60

Year	Births	Deaths	Natural Increase	Net Migration	Population Change
1946–50*	12,910	5,650	7,260	+1,850	9,110
1951–55	15,510	5,860	9,650	−2,850	6,800
1956–60**	16,700	5,310	11,390	−10,820	570

* From April 7, 1946 to December 31, 1950
**From December 1955 to April 7, 1960

Table C: Current and Projected Population of Saint Lucia, 1980–2030

Scenario	1980	1990	2000	2010	2020	2030
A	120,300	140,016	173,584	213,037	267,493	341,627
B	120,300	136,633	151,038	164,491	171,906	175,540
C	120,300	131,809	144,793	156,011	163,022	168,531
D	120,300	134,978	159,829	181,988	201,579	219,490
E	120,300	159,500	224,200	307,804	423,548	531,310

A: TFR of 4.5, net emigration of 1,500
B: TFR of 2.1, net emigration of 750
C: TFR of 2.9, net emigration of 1,500
D: TFR of 2.1, net migration of zero
E: TFR of 4.5, net migration of zero

Table D: Current and Projected School-Age Population (5–14) in Saint Lucia, 1980–2030

Scenario	1980	1990	2000	2010	2020	2030
A	37,595	35,936	44,964	56,425	66,071	85,911
B	37,595	38,883	22,862	29,613	24,846	21,814
C	37,595	35,926	27,017	33,316	28,904	27,850

Table E: Current and Projected Labour Force in Saint Lucia, 1980–2030

Scenario	1980	1990	2000	2010	2020	2030
A	34,693	45,311	58,242	72,248	96,034	121,250
B	34,693	49,098	68,371	80,552	93,850	81,757
C	34,693	47,719	58,174	63,260	70,362	71,727

Table F: Current and Projected Elderly Population (65 or Older) in Saint Lucia, 1980–2030

Scenario	1980	1990	2000	2010	2020	2030
A and C	6,669	9,911	12,688	13,942	14,417	19,108
B	6,669	8,782	11,079	12,470	13,606	19,925

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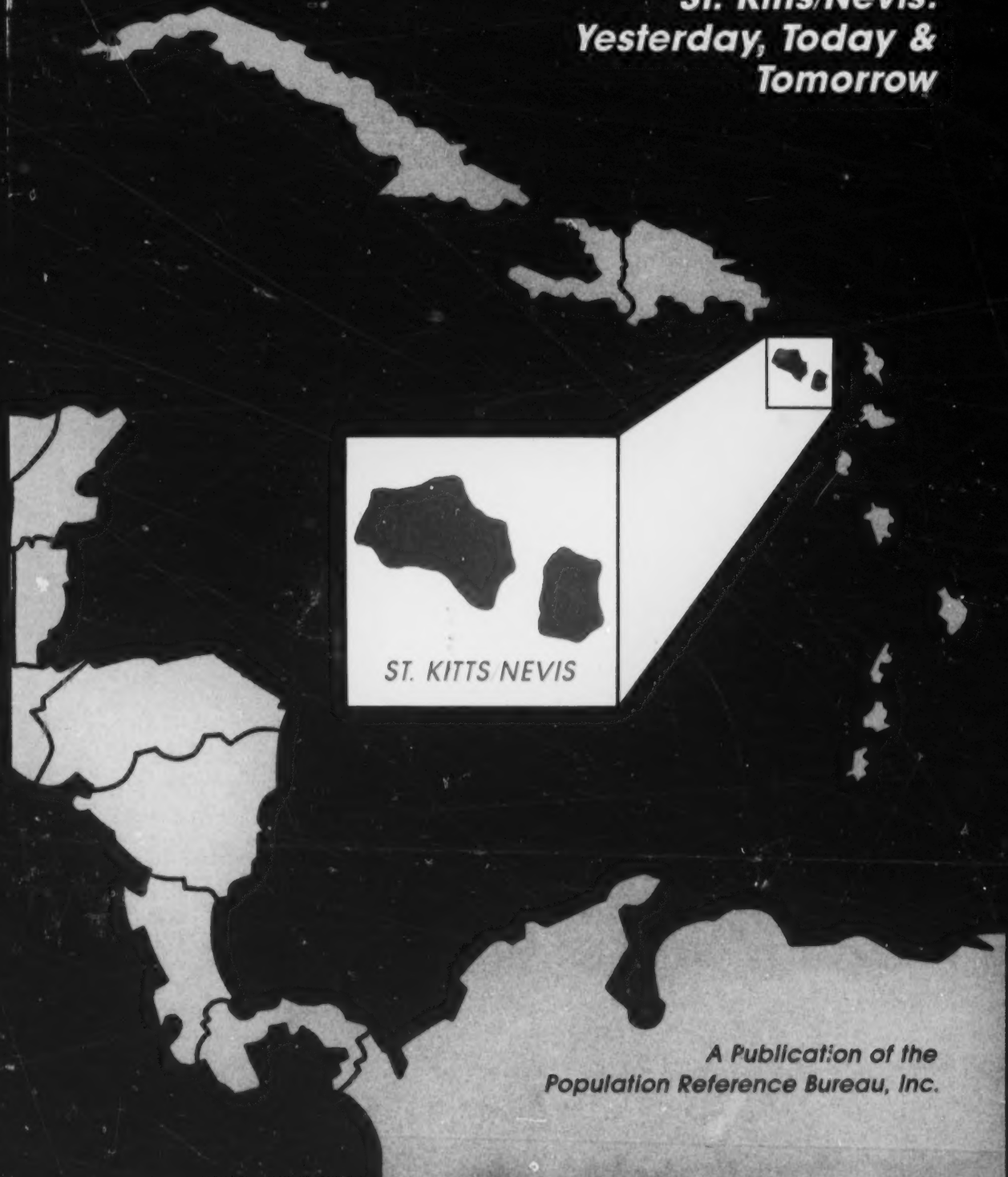

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St. Kitts/Nevis: Yesterday, Today & Tomorrow

by Leon F. Bouvier
February 1984

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St. Kitts/Nevis Yesterday, Today & Tomorrow

St. Kitts/Nevis Yesterday

St. Kitts/Nevis became an independent nation in September 1983. The two islands comprise the newest and one of the least populated of the world's independent countries. In examining its population history, it is important to specify precisely what islands are included in the various enumerations that have been taken since the first post-emancipation census of 1844.

That first census counted 34,927 persons living in three islands: St. Kitts, Nevis, and Anguilla (see Table 1). Until Anguilla broke away in the late 1960s (finally seceding officially in 1980), population totals for St. Kitts/Nevis were likely to include Anguilla. Since then, however, Anguilla's residents have generally been excluded from the official counts of the population of St. Kitts/Nevis. Insofar as possible, the historical statistics in this report will refer only to St. Kitts and Nevis, with Anguilla considered separately. Where this is not possible, the reader will be alerted to the variation.

The census of 1844 enumerated 32,748 people on St. Kitts/Nevis—23,177 on St. Kitts and 9,571 on Nevis. The population grew slowly for the next 50 years and peaked in 1891 at 43,963. This represented an average annual rate of growth of about 0.6 percent. After 1891, numbers began to fall and by 1921, the population of the two islands was 33,984. Thus over the three-quarters of a century after 1844, the population of St. Kitts/Nevis had only increased by 1,236—zero population growth for all practical purposes.

This was undoubtedly an era of high fertility and high, though declining, mortality. Crude birth rates were presumably in the high 40s and crude death rates in the middle 30s. Furthermore, emigration from the two islands must have been significant, particularly after 1891, as the total population declined between that year and 1921 by about 23 percent.

This pattern of growth followed by decline occurred in both islands. Nevis's population peaked in 1891 at 13,087 as did St. Kitts's (30,876). The numbers then fell to 11,569 in Nevis and to 22,415 in St. Kitts by 1921. The latter population, incidentally, was lower than in 1844! As for Anguilla, its population exhibited steady growth between 1844 and 1921. Indeed, numbers doubled over the period—from 2,179 to 4,230.

During the next quarter of a century (1921–46), rates of population growth once again increased, and by the 1946 census, 41,206 people lived on the two islands (29,818 on St. Kitts and 11,388 on Nevis)—about the same as in 1881, before the decline set in. Nevertheless, annual growth was still well below 1 percent, again suggesting considerable emigration at the same time that both fertility and mortality fell.

Throughout the nineteenth century, as well as in the early portion of the twentieth century, emigration levels were high in most smaller East Caribbean islands. Following emancipation, many former slaves migrated to the larger islands in efforts to escape their former "masters." By the turn of the century, the enticements from Panama (where the canal was being constructed), from Bermuda (where a new dock was also being built), and from the cane plantations of Cuba and the Dominican Republic led to continued emigration from St. Kitts, Nevis, and other small islands. It was not until after 1921 that this heavy migration declined somewhat and the population began to increase faster.

For the years 1946 to 1960, a study by Caribbean demographers George

Table 1: Population of St. Kitts/Nevis, 1844–1946

Year	St. Kitts	Nevis	Total, Two Islands	Anguilla	Total, Three Islands
1844	23,177	9,571	32,748	2,179	34,927
1861	24,440	9,822	34,262	2,500	36,762
1871	28,619	11,703	40,322	2,704	43,026
1881	29,137	11,864	41,001	3,219	44,220
1891	30,876	13,087	43,963	3,699	47,662
1901	29,782	12,774	42,556	3,890	46,446
1911	26,283	12,945	39,228	4,075	43,303
1921	22,415	11,569	33,984	4,230	38,214
1946	29,818	11,388	41,206	5,037	46,243

Roberts and Jack Harewood serves as the source of this report's analysis.* They estimated the population and the vital statistics for each year for each East Caribbean Commonwealth nation. Unfortunately, in the case of St. Kitts/Nevis, they also included the Anguilla population. Thus, their figure for the 1946 population totals 46,243 rather than 41,206. In 1946, Anguilla's population was 5,037 and it approached 6,000 by 1960. To allow therefore for appropriate comparisons over time, both prior to 1946 and after 1960, between 5,000 and 6,000 persons will be deducted from the Roberts-Harewood estimate to yield an estimate of the population of St. Kitts and Nevis only.

From 1946, when it was 41,206, the population of St. Kitts/Nevis increased to about 51,300 in 1960, an average annual growth rate of 1.5 percent—the highest recorded since 1844. The period was marked by continued high levels of fertility. In 1946, women past their childbearing years had averaged close to five children each. The crude birth rate was still a high 43 per 1,000 in 1960. On the other hand, mortality fell quite rapidly after World War II, in large part the result of new medical discoveries that prevented death from numerous infectious diseases. Thus, natural increase (that is, births minus deaths) was substantial.

Emigration, however, remained quite high. Roberts and Harewood estimated that it averaged around 550 per year, which was above 10 percent of the population over a decade. During the 1950s, emigration to the United Kingdom peaked. Indeed, it has been estimated that some 280,000 Caribbeans moved to the UK during that decade; a significant number undoubtedly came from St. Kitts/Nevis, as the smaller islands contributed the highest percentage of their total populations.

The spurt of population growth noted between 1946 and 1960 was of short duration. The next decade saw the number of Kittitians and Nevisians decline by some 13 percent—to 44,884. The rate of natural increase fell as birth rates declined while the already low death rates fluctuated only slightly. The crude birth rate, 43 in 1960, fell to 30 by 1970; the crude death rate, on the other hand, remained in the vicinity of 10 per 1,000.

The 1960s witnessed an incredibly large outmigration of the people of the nation—the rate has been estimated to be as high as 30 per 1,000 in some years, according to Guadalupan demographer Jean-Pierce Guengant. In 1960 and 1961, move-

*G.H. Roberts and Jack Harewood, *Estimates of Intercensal Population by Age and Sex and Revised Vital Rates for British Caribbean Countries, 1946–1960* (University of West Indies, 1964).

ments to the UK were particularly numerous, due perhaps to the anticipation of the passage of the Commonwealth Immigration Act, which would, for all practical purposes, bar further immigration from the Caribbean. After 1962 the migration stream shifted to Canada and in particular to the U.S. Virgin Islands. (As an Associate State in the Commonwealth, St. Kitts/Nevis did not benefit from the liberalization of U.S. immigration laws in 1965. Its annual quota was only 200, later raised to 600 in 1976.) The Virgin Islands' non-native population more than doubled between 1964 and 1969, many of them coming from St. Kitts/Nevis.

Thus the 1960s—and, as discussed in the next section, the 1970s—were marked by massive movements away from the two islands, first to the United Kingdom and then to the U.S. Virgin Islands. As a result of these changes in demographic behaviour, including declining fertility, the population of St. Kitts/Nevis in 1970 (at 44,884) was approximately the same as in 1891.

St. Kitts/Nevis Today

According to the 1980 census, the population of St. Kitts/Nevis was 43,309. Thus the nation's long-time stability in numbers continues. Over the previous decade, the population fell by 1,575, which is about 3.5 percent.

This slight decline reflects the historical pattern of positive natural increase (that is, more births than deaths) being equaled and in some years exceeded by net emigration, when more people leave the country than enter it on a permanent basis. According to official government estimates, for example, natural increase for the three years from 1978 through 1980 totaled 1,952 while net emigration amounted to 1,901.

For this report, net emigration has been estimated to have been 8,000 during the decade. This is based on a reverse projection of the population from the 1980 census back to the one taken in 1970.* Admittedly, this is an estimate, and any variation in the completion rate of the censuses could affect the count. Yet given the fact that natural increase for the decade amounted to about 6,500 and that the nation's population fell by 1,575, it seems that 8,000 is a reasonable estimate of net emigration for the 1970s. This translates into the rate of 18 persons per 1,000.

Fertility fell during the 1970s. In 1970 the total fertility rate (TFR), which is the number of live births per woman according to the age-specific rates of that year, approximated 5.0. By 1980, it had fallen to about 3.6. This represents a crude birth rate of 27—somewhat lower than the 30 per 1,000 noted around 1970. The fall in the total fertility rate is quite remarkable and suggests that family planning programs are achieving some success. On the other hand, a total fertility rate of 3.6 is relatively high for such a geographically small nation. It means that St. Kitts/Nevis must rely on continued high levels of emigration to ensure that population growth does not get out of hand.

Changes in mortality were minor over the decade. The crude death rate actually rose slightly—from 9.7 to 11.0 per 1,000—but that reflects an aging population: 7.8 percent of the 1970 population were 65 or older; by 1980, 9.5 percent were that age. Age-standardization yields a lower adjusted death rate in 1980 than in 1970. It is assumed that life expectancy

*The reverse projection method "survives" the population by age and sex backward in five-year intervals. By using appropriate survival rates, a population—males aged 45–49 in 1980, for example—can be restored to the number who would have been 40–44 in 1975 and 35–39 in 1970. Assuming relatively complete censuses in both 1970 and 1980, any differences in the age-sex distribution in 1970 between the restored and the actual enumerated population must be accounted for by either immigration or emigration. This yields only a rough estimate of the level of net migration over a decade; nonetheless it is the best available, short of actual data on migration itself.

Table 2: Permanent St. Kitts/Nevis-Born Immigrants Admitted to the United States, 1960–79

Year	Number
1960–64	853
1965–69	2,991
1970–74	1,884
1975	419
1976	650
1977	896
1978	1,014
1979	786

increased a bit during the decade, to about 64 years at birth by 1980.

As noted above, net emigration continued throughout the 1970s. According to official government statistics, the negative balance for the ten years beginning in 1967 was about 6,500. Between 1970 and 1979, a total of 5,903 persons born in St. Kitts/Nevis emigrated legally to the United States (see Table 2). A significant number also moved to the U.S. Virgin Islands or Canada.

The aging of the population of St. Kitts/Nevis was quite marked during the 1970s. Median age increased from 16 to 20 and the proportion under 15 fell from 48.7 percent in 1970 to 37 percent in 1980. Together, emigration of young people and low fertility contributed to this shift in the age structure. In addition, increases in longevity among the elderly and the return migration of older Kittitians and Nevisians led to higher proportions of older people and a higher median age.

As a result of these changes, the dependency ratio (the number of persons under 15 and over 64 per 100 persons aged 15–64) fell from 126 to 88. In 1980, therefore, there were 88 dependents per 100 working-age individuals. This remarkable decline in the dependency ratio over such a brief period shows that the burden of dependency fell because of the fertility decline and, to some extent, the continued high level of emigration. (Figure 1 illustates these changes in age distribution between 1970 and 1980.)

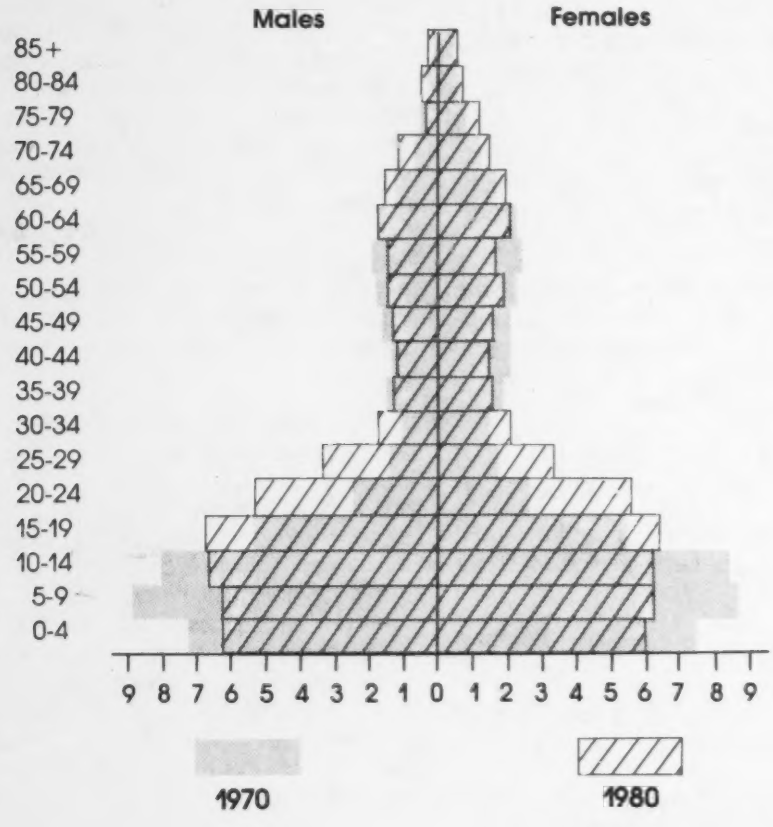
As St. Kitts/Nevis faces the future—in particular, in light of its September 1983 establishment as the world's newest independent nation—its population size is fairly stable. Indeed it is one of the few nations in the world where population size has not varied by more than 10–15 percent in either direction over the past 100 years. Such stability is important, even necessary, when population density is already high and further growth is not considered desirable. To maintain such stability, however, future demographic behaviour will have to be monitored very closely to note any change in population size or structure.

St. Kitts/Nevis Tomorrow

No attempt is made in this report to predict the future size and composition of the St. Kitts/Nevis population. Rather, alternative scenarios are created based on different assumptions concerning future fertility, mortality, and migration patterns. Policymakers are then better able to determine the impacts of variations in these variables on the future size and composition of the islands' population and, if they so desire, act accordingly.

Demographic Assumptions: Three models of fertility have been selected. One assumes that fertility remains at its current level of 3.6. Another assumes the TFR declines to 2.5 by 1990, with the age-specific fertility rates that would then prevail remaining constant thereafter. Either of these patterns could occur. On the one hand, fertility has already fallen considerably and no further decline may take place. On the other hand, with increased awareness and use of contraceptives, further declines are indeed quite possible. The third model is based on a replace-

Figure 1: Age-Sex Distribution of St. Kitts/Nevis, 1970 and 1980



ment-fertility figure of 2.1. Such low fertility would be necessary for all growth to eventually end (in the absence of migration). It is used solely to illustrate the momentum of population growth.

Only one model of mortality trends is used. Life expectancy is assumed to increase from 63.6 for males and 67.5 for females in 1980 to 71 and 75, respectively, in 2030. Such progress seems quite likely, given the evidence of recent improvement not only in St. Kitts/Nevis but in other East Caribbean nations as well.

Three possible patterns of migration are postulated. One constitutes a maintenance of the 1970–80 level of 800 emigrants net per year; the second reduces that figure to 400 per year; the third, strictly for illustrative purposes, assumes no net movement into or out of the islands, in order to demonstrate the impact that an end of emigration would have on the islands.

A continuation of present migration levels is quite plausible. Whether these numbers will fall in the future is of course problematic, but it must be considered since the United Kingdom already restricts immigration and both the United States and Canada are presently reexamining their migration policies. This could also affect movements to the U.S. Virgin Islands.

On the other hand, the country's new independent status will result in a larger number of possible legal entries into the United States, at least under current U.S.

law. As a colony, only 600 "slots" per year were reserved for St. Kitts/Nevis. As an independent nation, it will qualify for up to 20,000 "slots" per year. This is not to say that they will be used; Kittitians and Nevisians would compete with others under the various preference levels of U.S. legislation. It can nevertheless be assumed that emigration to the United States will rise, albeit temporarily, before leveling off at some later date. Given the volatility of this temporary movement, however, this report does not consider it.

Based on various combinations of the above assumptions, four scenarios of population growth in St. Kitts/Nevis have been constructed (see Figure 2; for supporting data, see Appendix Table A):

Scenario A–current fertility (3.6) and current net emigration (800 per year)

Scenario B–declining fertility (2.5) and declining net emigration (400 per year)

Scenario C–current fertility (3.6) and net migration of zero

Scenario D–declining fertility (2.1) and net migration of zero.

The implications of these four possible patterns of fertility and migration are discussed in the remainder of this paper.

Population Projections: A continuation of current demographic behaviour in St. Kitts/Nevis (Scenario A) would result in a slight decline in population size over the next 20 years. By the year 2000 the population would be 42,022, some 3 percent below the 1980 total. In 50 years the total population would have fallen to nearly 27,800. However, it is unrealistic to assume a constant numerical level of net emigration when the overall population itself is declining. For example, the net annual emigration level of 800 yields a migration rate for 1980–85 of 18.6 per 1,000, but by 2025–30 it would yield a rate of 27.1 per 1,000. More likely, net emigration would decline somewhat after 2000 and perhaps remain at a rate of around 20 per 1,000. (This would still yield a population decline to somewhere in the vicinity of 35,000 by the year 2030.)

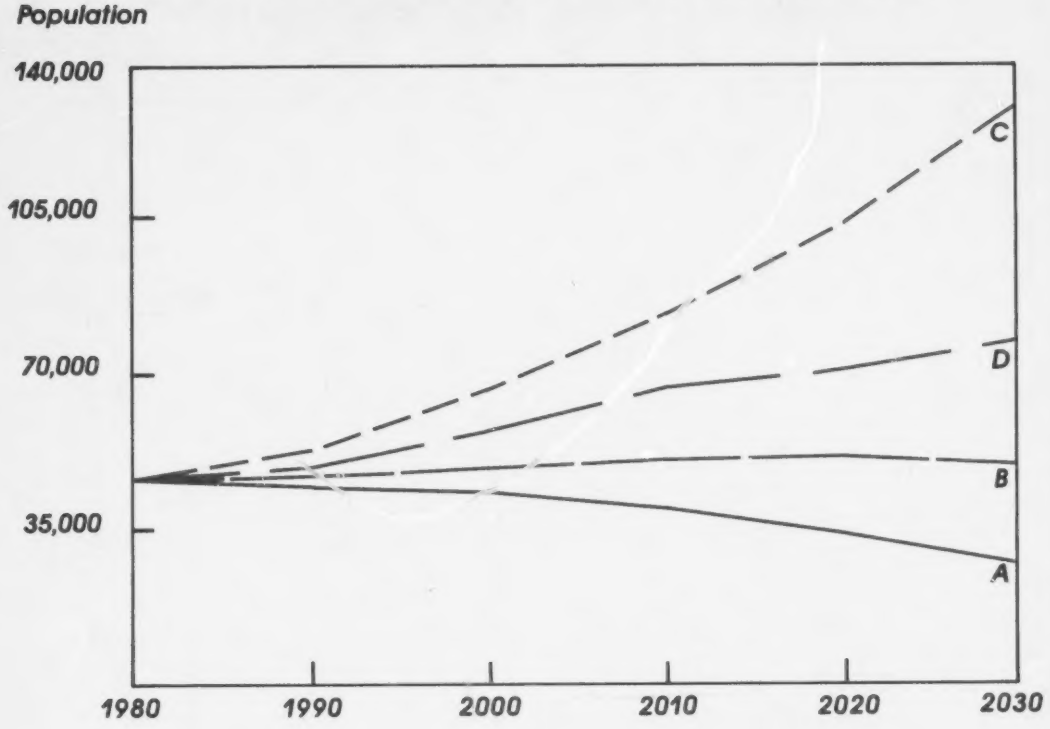
Nevertheless, a continuation of current fertility and migration levels combined with some improvement in life expectancy will result in a small decrease in numbers over the next few decades, with that decrease becoming larger later in the twenty-first century. Such a likelihood may well be perceived as favourable though it involves much of the youth leaving the islands. However, it seems quite unlikely that the migration rate will remain at 18 or 20 percent for very long. Although it may actually increase in the short run, declines are entirely possible in the twenty-first century.

To illustrate the impact of current fertility levels on the future size of the population, Scenario C was developed. It assumes that fertility remains at 3.6 and that net migration is zero after 1980. The resulting population growth is awesome. By the end of this century the population of St. Kitts/Nevis would surpass 66,000, and by 2030 it would have almost tripled to 129,000—a clearly impossible situation. Emigration from the islands will undoubtedly continue at some level in the future as it has in the past, though the number of people leaving may vary.

The question thus becomes: if net emigration is reduced, though not eliminated, what level of fertility would assure a relatively stable population of 45,000–50,000? Scenario B is one possibility. It assumes net emigration of 400 per year (half the current level) and a fertility level that falls to 2.5 by the year 1990 and remains constant thereafter. Population size would grow, albeit quite slowly, to 47,683 by the year 2000 and to 50,000 by 2015 before beginning a very slow decrease thereafter. This then appears to be the level of fertility to opt for if net emigration is halved. Any higher fertility would yield what would certainly be viewed as unacceptably large populations in the next century.

These scenarios illustrate migration's role in determining the future size of the islands' population. Yet fertility levels are also ex-

Figure 2: Population of St. Kitts/Nevis, 1980–2030



A: TFR of 3.6, net emigration of 800
B: TFR of 2.5, net emigration of 400
C: TFR of 3.6, net migration of zero
D: TFR of 2.2, net migration of zero

tremely important to consider when planning for the future. Scenario D shows what would happen if emigration were eliminated and fertility were reduced to 2.1—the level needed to replace any population in the long run without migration. The population of the islands would increase to 56,460 by 2000 and then to over 77,000 by 2030. In fact it would reach 82,000 before leveling off by 2050!

How can a population double in size when its fertility rate is at replacement level? There is a built-in momentum for growth in a young population. As indicated earlier, St. Kitts/Nevis has such an age distribution. Thus, the number of young people having smaller families is itself so large that the level of natural increase remains quite high for many years before it stabilizes as the society itself ages.

Variations in fertility and migration do not only affect population size, of course. Their impact on the age distribution of the population is also an important policy consideration.

Declines in fertility contribute to the aging of a population. Whenever fewer children are born, the median age rises simply because the proportion of young people in the population falls while that of the elderly goes up. Declines in emigration also contribute to some aging, as the large majority of those who leave are children and young adults. Furthermore, there is evidence of some return migration to St. Kitts/Nevis of older people.

Table 3: Percent Distribution of Population by Age-Group in St. Kitts/Nevis, 1980–2030

Scenario	1980	1990	2000	2010	2020	2030
Scenario A						
Under 15	37	35	35	29	25	20
15–64	53	56	56	63	64	55
65 or older	10	9	9	8	11	25
Scenario B						
Under 15	37	32	28	26	22	20
15–64	53	59	65	68	70	63
65 or older	10	9	7	6	8	17
Scenario C						
Under 15	37	36	38	35	34	34
15–64	53	57	57	61	62	59
65 or older	10	7	5	4	4	7
Scenario D						
Under 15	37	32	27	26	23	22
15–64	53	60	67	69	71	66
65 or older	10	8	6	5	6	12

Table 3 illustrates the changes that could take place in the age composition in future years. Looking first at the dependency ratio, if current fertility and migration patterns remain unchanged (Scenario A), dependency ratios would fall from 80 per 100 working-age persons in 1980 to 53 per 100 by 2015. A sharp rise would then follow, reflecting both the retirement of large cohorts born during the high-fertility decade of 1960–70 and the increased proportional contribution of older returning migrants. More important, however, is the short-run positive effect of fewer individuals being supported by the active population.

Variations in the dependency ratio would follow roughly the same pattern if fertility and net emigration were both reduced (Scenario B). The dependency ratio would fall even more, to 43 by 2020, and would not rise again to the level noted in Scenario A. Without any emigration whatsoever and with a continuation of the current fertility level (Scenario C), the dependency ratio would fall only to 61 by 2020 before rising once again.

Looking in more detail at the three major age categories, in both Scenarios A and B the proportion of youth in the total population falls over time, though somewhat more quickly with lower levels of fertility and net emigration (Scenario B). Except for the rapid increase in the number of elderly after 2020, changes in their proportion in the population are very slight. It is the active population, between 15 and 64, that increases—mostly in relation to the young group. This is true of Scenarios A and B, but, again, particularly so for Scenario B.

The pattern noted in Scenario C, when there would be no migration, is somewhat different. Although the group aged 15–64 increases, it does so more at the expense of the elderly than of the young.

These projections suggest that were it possible to select the best demographic